FIBROID TUMORS OF THE UTERUS.[1]

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DR. BILLINGS, Chairman of the committee on the programme for this meeting, has asked me to say a few words in order to introduce the subject of Fibroid Tumors of the Uterus for discussion. My paper is not in any sense of the word a treatise or an essay on fibroid tumors, but simply an account of their natural history as I have watched them, their effect on the women who have had them, the means that may be employed when necessary to remove them, and the condition in which patients are left after operation. Nor have I thought it necessary to enumerate and tabulate all my own cases, although this might be interesting to the Association and instructive to me, but I have simply illustrated my remarks by citing a few descriptions applicable to the subject mentioned. If in concentrating what I have to say I have not carried out the wishes of the committee, I shall regret it.

I suppose it is unnecessary for me to define a fibroid tumor of the uterus. We all know them to be aggregations of normal uterine tissues in abnormal situations and masses. They may cause symmetrical enlargements of the uterus, or more or less one-sided enlargements; they may be in the walls of the uterus, or protruding towards its outside or towards its inner cavity; they may be incorporated with the uterus or connected with it by a broad attachment, or by a pedicle, or they may be entirely separated from it and get their nourishment from the vessels of the omentum or mesentery, to which they are adherent; they may grow under the broad ligament, or they may grow directly out into the general cavity of the peritonœum. Certain of them

[1]Read before the American Surgical Association, May 31, 1892.

that grow near the cornu of the uterus are sometimes gradually extruded until they are merely connected with the uterus by the fallopian tube and broad ligament and have a pedicle as distinct as that of an ovarian pedicle. I have seen this state of things three times, and always on the right side. They may be dense, or œdematous, or filled with lymph spaces, or they may, in very rare instances, be fibro-cystic, having true cysts as distinct as those in an ovarian tumor, not the dilatations I have mentioned above in the substance of the tumor which are filled with clear, yellow or bloody fluid and are simply dilated lymph-spaces, but fibroid tumors, having true cysts on their outer surface, with thin walls, and filled with fluid of different densities. I am of the opinion that a certain number of tumors which have been described as fibro-cystic belong to the class I have mentioned as fibroids with dilated lymph-spaces. True fibro-cysts are very rare, and I should say a frequent operator would not meet with more than one or two in many hundred cases of uterine tumors.

In size these tumors vary from that of a mere dot to tumors weighing fifty or more pounds. Their rate of growth is generally slow, by which I mean that several years' growth will be required to produce a tumor the size of one's fist. They are very common. In order to settle this question for myself I have gone over my records of office patients. I find that I have seen in my office during the past fifteen years three hundred and seventy cases of fibroid tumors of the uterus, and, as I have seen many at the hospital and in consultation, I think I may fairly add one hundred and fifty more, making in all five hundred and twenty cases. When one surgeon has seen that number in fifteen years I think they may be called common.

These tumors are said to occur more frequently in the black than in the white race, while ovarian tumors are said to be more common in the whites than in the blacks.

Operations to relieve women of fibroid tumors are rarely necessary, judging from my own experience. Of these five hundred and twenty cases, I have operated only on sixty, or about eleven per cent. The conditions which should guide us in recommending removal of the tumors are, when they threaten life by hemorrhage; when they are unbearable from their weight or from the inconvenience they cause, particularly in the act of

stooping or bending, or from their position when they prevent a woman from sitting down; when in a young woman they cause distress, chagrin and shame from the alteration they have made in her figure; when they cause so much pain as to make life a burden; when by their presence they so obstruct the circulation as to cause swelling and œdema of the limbs, or interfere so much with the action of the digestive and eliminative organs as to cause emaciation and weakness; when they block up the pelvis so as to cause obstruction of the bowels; or when they have caused strangulation of the bowels; or when their pedicles have become twisted, and sometimes the whole uterus becomes twisted on its axis exactly as the pedicle of an ovarian tumor does, and presents the same symptoms, and requires immediate operation.

Death by hemorrhage is very rare. I have only known of three instances. Many women are blanched and anæmic and feeble, but they live, and most of them are relieved by curetting, or at times by electrolysis *à la* Apostoli, or by the removal of a pediculated fibroid from the interior of the uterus, or by enucleating a half-extruded one.

The feeling of weight and inconvenience caused by these tumors are sufficient in some cases to call for their removal, and the sufferer has a right to demand operation even if life is not threatened, for surgery is not only to save life but to contribute to its comfort, and there is no class of cases in which the decision of the patient has more weight than in these cases of fibroid tumors. "I do not want to carry this thing any longer; it annoys me. I cannot stoop to button my boots, and I want it removed," said a woman to me. I had put her off several months, and she had had abundant time to think the matter over. I thought she had a right to decide the question of operation. I removed the tumor and she got well.

A growing tumor in a young woman from fifteen to thirty years old, which has distended the abdomen and is prominent and unsightly and causes remark, may be with propriety removed if the sufferer cannot bear to know how she looks, even if the tumor gives rise to no symptoms. It is *her* tumor and *her* life, and her body and her appearance, and she has a right to look like other women if she wants to.

Some large tumors interfere very little with respiration and nutrition, and cause but little œdema and emaciation, while others not so large cause great debility. Those tumors which have separated themselves entirely from the uterus are dangerous from the opportunities they afford for strangulation of the intestines, and should be removed. I have seen a case of death caused by some loops of the bowel becoming strangulated by slipping in between points of adhesion formed between a fibroid which had become wholly separated from the uterus and other loops, in a tumor nourished solely by its adventitious adhesions. Such loose-lying fibroids should be removed.

Again, a fibroid may threaten to render delivery impossible by the natural passages. At the same time, Nature will generally get these fibroids out of the way if you will give her a chance. I remember a case of this kind in the practice of Dr. John Benson, of Chatham, New Brunswick. It was a first labor; the tumor was so obstructive that Cæsarean section was seriously considered, but at length the tumor receded and allowed the head to pass. A few weeks after delivery Dr. Benson sent the lady to me. I opened the abdomen, turned the body of the uterus and both ovaries forward upon the pubes, split the capsule of the tumor and enucleated it from its bed, sewing up the rent in the uterus where its pedicle had arisen from the posterior part of the body near its junction with the neck. Recovery was uneventful. The tumor was about six inches in diameter and weighed two and a half pounds; it was growing, and if it had been allowed to remain would undoubtedly have rendered the next delivery impossible.

At the same time, as I have said, Nature will generally lift these tumors out of the way when the attending accoucheur would think natural delivery impossible. I remember a case where a large fibroid filled the vagina at the beginning, or just before the beginning of labor. I could not move it when pressing on it with my hand, even with a purchase against the wall of the room with my foot, and yet in twenty-four hours Nature had pulled that tumor up and had pushed the os, through which one could feel the child's head down into the vagina.

I remember another case of pregnancy at five months, where I advised non-interferenee, but another gentleman said the tumor

must be removed, as delivery at term would be impossible. This was done, and the woman died in two hours. Another case I remember where a practitioner produced labor somewhat prematurely and ruptured the uterus, and the woman died. Both of these cases could not have done worse if they had been let alone, and they might have done better.

Sometimes these tumors, when quite small, by their position make it impossible for a woman to sit down with comfort. One of my patients said she felt as if she was sitting on a spool, and that she had to stand or lie down to have any comfort. She was sent to me by Dr. W. G. Kimball, of Worthington, Mass. A fibroid about the size of a horse-chestnut, on the posterior and left side of the fundus, was tied and burnt off. Another near it, the size of a boy's marble, was torn off. There was no drainage. Rapid recovery and complete relief followed.

The solid fibroid tumors rarely have any adhesions, and are removed without much difficulty after a little practice. The true fibro-cystic tumors are very rare. In the five hundred and twenty cases mentioned above, I am only sure that eight were fibro-cystic—only about 1.3 per cent. Of these I did not remove any successfully. In all the operations I was unable to separate the cysts from the bowels and other peritoneal structures. One woman recoverd from an incomplete operation. The others all died. Of course, there may have been a cancerous element in some of these tumors, as very few of them were followed by an autopsy. Most of these operations were attempted many years ago, when my manual dexterity was not as much developed as it is to-day. But I still regard true fibro-cysts of the uterus as very rare, and, as a rule, very dangerous in their removal.

An extraordinary case of twisting of the uterus as the pedicle of a large fibroid tumor of many years' existence was reported by me (*American Journal of Obstetrics*, Vol. XXV., No. 3, 1892.) The uterus was twisted one and one-half times on its axis, and the blood supply was cut off from the tumor and from the ovaries and tubes. The case was fatal, no operation having been done. There was general peritonitis and lobular pneumonia. How this twisting of a great solid tumor and of the uterus could have happened is incomprehensible to me. A great solid fibroid tumor, weighing at least six pounds, with both

ovaries, tubes and broad ligaments had become twisted on its axis one and a half times.

The natural history of ninety per cent. of fibroid tumors is to grow to a size to reach the umbilicus, or to reach higher or lower than this point, and then to remain stationary, and after the menopause to become cretaceous and atrophied. Some of them, I think, shrivel up almost entirely, while others remain as large as a cocoanut without giving rise to great inconveniences. About ten per cent. of them require removal for one of the various reasons I have mentioned in the earlier part of this paper; others atrophy of themselves, without any treatment being employed. A large number of them are discovered by an attendnig physician, the women being totally unaware of their presence, though they may have been in the womb for many years.

Patients with fibroid tumors present themselves between the ages of twenty and sixty, rarely before or after these periods of life. I find that the average age of those on whom I have found it necessary to operate is thirty-nine years. One-quarter of them were about thirty-four years old. My youngest patient on whom I have done abdominal hysterectomy for a fibroid was eighteen and my oldest sixty-five. Of sixty cases, one was sixty-five, one sixty-three, ten were between fifty and fifty-two, one was eighteen; only three were between twenty and thirty, while forty-four were between thirty and fifty years of age.

The treatment of these cases may be by drugs or by surgery, or by both, or by letting alone. The most common drug used is ergot. Alone, as a rule, it is ineffectual; combined with curetting it helps to stop hemorrhage. The treatment by high doses of electricity sent through the uterus and tumor *à la* Apostoli, I have written upon at length elsewhere.[1] Suffice it to say that it sometimes arrests hemorrhage, almost always relieves pain and gives strength, but rarely diminishes the size of the tumor.

Removal of the ovaries for the cure of fibroids, particularly bleeding ones, was at one time extensively practiced. I have practiced it but four times. In one woman forty-four years old the tumor disappeared in a few weeks and menstruation ceased

[1]Boston Medical and Surgical Journal, Vol. cxxiv, March, 1891.

at once. In another, thirty-three years old, the catamenia gradually ceased after three years and the tumor remained about the same, when I last heard, in 1887. In another woman, thirty-four years old, the operation was done on August 5, 1885. By May, 1886, she had gained twenty-four pounds in weight and was well and strong. From the time of the operation till November 10, 1885, a period of three months, she flowed incessantly, but only slightly, nothing in amount to what she had done before the removal of the ovaries and tubes. From November 10, 1885, till February 24, 1886, the flowing wholly ceased. Since that time, till May 13, 1886, she flowed continually, but not one-tenth as much as she used to. The tumor was somewhat diminished. I have not seen her for six years.

Another one, thirty-six years old, was not at all relieved by the operation. The tumor reached to the umbilicus, and the flooding was severe. I removed the ovaries and tubes on January 21, 1886. Two years later the tumor had descended into the cavity of the uterus, and was removed *per vaginam*. Of course, after this the hemorrhage ceased. I have seen in another case, not my own, the tumor grow enormously after removal of the appendages, and I am inclined to regard the method as unreliable.

Curetting the interior of the uterus often cures the hemorrhage completely, and this curetting I follow by wiping the interior of the uterus with tincture of iodine. At the present time the surgical treatment is almost wholly by removal of the tumor, with or without the uterus. The kind of operation to be adopted has and will vary with the particular case and the particular operator. In general, the two varieties of the operation are described as intra- or extra-peritoneal treatment of the pedicle. Of course, if the tumor has gradually been extruded more or less into the cavity of the uterus, it should be enucleated and removed under the most careful antisepsis. Such protrusion will invariably be preceded by great hemorrhage, and will give abundant warning of the necessity of interference. Quite large tumors are extruded in this way.

Tumors which have carried the fundus of the uterus to the umbilicus may in the course of two or three years be removed *per vaginam*. But tumors requiring removal, which do not thus

become extruded, must be removed by abdominal section. There are several ways of finishing this operation. Sometimes one can close the wound in the uterus by stitches and leave no pedicle, but simply a sutured wound, and then close the abdominal wound. Sometimes the base of the tumor and body or neck of the uterus is compressed in a small écraseur or serre-nœud, and a long pin passed through the stump holds it outside the skin of the abdomen; this is called the extra-peritoneal treatment of the pedicle by Kœberle's serre-nœud or some modification of that instrument. Sometimes the stump is simply tied around as the pedicle of an ovarian tumor is, and is dropped back. Sometimes the stump is turned into the vagina after being ligatured; this is called the intra-vaginal treatment of the stump, and is, of course, extra-peritoneal. All the different modes of treatment depend for their fundamental success on asepsis and on securing the vessels of the broad ligament, no matter in what way the pedicle or neck or body of the uterus is ultimately disposed of. I will not enumerate the different methods. The members of the Association are referred to ingenious methods of operation described in the American Journal of Obstetrics, particularly in the contributions from Chicago during the past few years, and to the foreign journals, particularly the German ones. Time would fail me and this introductory paper would become a monograph on the different operations for removing fibroid tumors of the uterus by abdominal section if I should describe the different procedures employed.

The condition of most of those from whom fibroid tumors have been successfully removed by laparotomy is very comfortable. Some of them, I do not know exactly what proportion, suffer from what they call "hot flashes," by which they mean a sensation of heat rushing to their heads. This is extremely uncomfortable. In some cases it takes place every few minutes, in others at longer intervals. I do not know any way of relieving this distressing symptom. Others get extremely fat. A certain proportion, particularly those in whom the pedicle has been treated extra-peritoneally, suffer from ventral hernia. In all cases, however, in which the operation was really necessary the state of health is much ameliorated, and the individual is very comfortable.

Sometimes the bladder is cut off by the wire écraseur, owing to its not having been sufficiently dissected off from the tumor, but in the only case occurring to me the bladder healed in a few weeks by keeping it drained with a Simm's catheter, and the accident has caused no subsequent trouble, the bladder having been perfectly normal ever since the operation some ten years ago.

The length of the incision does not complicate an operation, provided there are no adhesions. I remember one extending from the sternum to the pubes, in which a tumor weighing fifty-three pounds was removed. The scar has remained sound, and there is no hernia.

Very rarely insanity follows the operation of removing a fibroid by laparotomy, as it sometimes does other surgical operations. Attacks of insanity that I have seen after surgical operations, such as ovariotomy for instance, come on with a normal temperature when recovery is taking place, and the insanity becomes more fixed and established as convalescence merges into health. One of my patients was an elderly person, sixty-eight years old, who recovered rapidly from ovariotomy; another was much younger, being only twenty-five years old. I have never seen insanity after hysterectomy.

Tetanus I have seen twice in cases of other operators, but have never myself had an instance of it after hysterectomy. I have, however, had one case after an ovariotomy.

I invariably see that my patients who have recovered from abdominal hysterectomy are fitted with a firm abdominal supporter, and impress upon them the necessity of being careful about carrying heavy loads or straining themselves.

EDITORIAL ARTICLE.

TERRIER AND HARTMAN ON THE IMMEDIATE AND ULTIMATE RESULTS OF VAGINAL HYSTERECTOMY FOR CANCER OF THE UTERUS.[1]

A point often lost sight of in the study of the therapeutics of cancer is the ultimate result of the operation performed for its radical cure. Several years ago one of these surgeons published the results of his first eighteen hysterectomies, and has kept track of them and included their present condition in this article.

Eighteen new cases are also reported, making a total of thirty-six hysterectomies with eight deaths, a mortality of about 22 per cent.

In both the old and the new series there was an error of diagnosis in one of the cases, therefore reducing the total number of hysterectomies for cancer to seventeen in each set, or a total of thirty-four with a mortality for cancer, as both these patients recovered, of about 23½ per cent.

The four deaths in the first series occurred in first case from hemorrhage on the seventh day; the second and fourth died in forty-eight hours of shock and hemorrhage, and the third on the third day of shock.

In the second series the deaths were due to shock in a case where the cancerous growth had involved the bladder; twice to peritonitis. In the first one of the peritoneal cases a pair of forceps had pinched a loop of small intestine causing a perforation, and in the second the uterine body was everywhere adherent. Many pairs of forceps had to be employed, and the peritonitis seemed to originate from a pair of forceps that had been used as sponge holders, being mistaken for a pair clamping a vessel and being left sponge and all in the wound.

[1] Revue de Chirurgie, April, 1892.

In the fourth and last case death resulted on the fourteenth day, when the patient seemed on the high road to recovery, from phlebitis of the lower limb. There is no death from hemorrhage in the second series of cases, owing to the abandonment of the ligaturing of the broad ligament and the employment instead of continued forci-pressure.

In the last operations instead of trying to include the whole of the broad ligament in a single pair of forceps, two and occasionally three were employed. The ligament being grasped in the first pair, this portion is cut through, thus lowering the uterus a little and rendering it comparatively simple to include the remaining portion of the ligament in the grasp of the second pair of forceps. Sponges have been entirely abandoned, a current of water over the wound being enough to cleanse the parts.

The granulating masses projecting into the vagina are first curetted in order to clear the field of operation more thoroughly and dispose of any tendency to obstructing hemorrhage from that source. In considering the ultimate results of the operation, two cases in the first series where the recto-uterine cul-de-sac was opened during curetting and the uterus removed should not be included.

In a third case the forceps were fixed upon friable and suspicious tissue.

In one of these cases the patient committed suicide shortly after leaving the hospital, the other two survived eight and nine months.

Ten patients alone remain in whom the operative interference seemed at the time to be more serious than the condition demanded. Of these two are well without any trace of recurrence, after six years and four months for one, and four years and six months for the others. Relapse occurred in the eight others at different times between one and one-half months and two years.

In the second series there are also three incomplete hysterectomies. In one this was necessitated by the opening of a cul-de-sac in the course of curetting and a part of the thickness of the bladder wall was also resected.

This patient was much benefited and was still well four months after the operation. The other two lived two and one-half and fourteen months respectively. One of the ten upon whom the complete oper-

ation was performed has been lost sight of, but of the other nine, five are in good health. Three of these are free from relapse at from three years to eight months after the operation. The other two are free from all symptoms but have a small suspicious nodule at the side of the vaginal cicatrix. They have gone for three years and five months and ten months, and if their statements alone had been accepted and no examination made they would have been considered as completely cured.

Time and the increased number of cases only confirm the fact that:

First—Vaginal hysterectomy for cancer is a serious operation.

Second—Vaginal hysterectomy does not seem to be less serious when it is partial, than when it is complete, so the latter operation is advised whenever the uterus is mobile, even when the vagina is involved for, this may be operated upon at another time.

Third—Relapse is frequent, 70 per cent. and often rapid, but may not manifest itself by signs noticeable to the patient until considerable time has elapsed, (6 months, 2 years.)

Fourth—30 per cent. of the patients who survive *seem* to be completely cured, even when the malignant character of the disease has been fully established clinically and histologically.

M. Bouilly[1] says that this operation continuing to be very serious and dangerous, is only justified by the malignant course of the disease.

In 1888, he had performed 30 vaginal hysterectomies, of which 29 were for cancer, with 7 deaths. Since then he had done 21 other cases, making 50 vaginal hysterectomies for cancer of the uterus performed since 1886, with 16 deaths. Anong the 34 recoveries from the operation 6 have remained well for a period varying from four years and three months to fifteen months. Two patients had a recurrence after three years and five months and three years and four months. 4 have died after more than two years, and 4 have been lost sight of. Among the 18 others recurrence has been noticed in from two years to eight months. In 15 cases in which total extirpation was impossible, a partial removal was undertaken, and in all a recurrence followed very rapidly.

[1] *Societe de Chirurgie. Revue de Chirurgie*, Jan. 10th, 1892.

From the final results it is incontestable that a considerable number of these cases have been largely benefited by the operation. The results obtained in cancer of the uterus do not differ especially, therefore, from those of cancer of other organs, the tongue, or the rectum for example, and the same principles should govern the decision in regard to interference. He advised not operating when total removal is impossible and complete vaginal hysterectomy when the cancer is limited.

In M. Segond's 33 hysterectomies of which 25 were for cancer of the cervix and 8 of the body of the uterus there were 7 deaths all among the cervical cases. Eight of the cases having been operated upon within six months were not considered; of the remainder (18) seven had suffered recurrence, four of them dying in less than a year, and the other three had only been operated upon about eight months ago.

M. Verneuil had recently seen a woman who was operated upon in 1889 for a cancer of the cervix in whom a partial amputation was done, and where the microscopic examination had revealed an epithelioma. He also cited another case that was well for nine years. The least time of survival in the partial amputation was 21 months which he considered better than in total hysterectomy.

SAMUEL LLOYD.

INDEX OF SURGICAL PROGRESS.

HEAD AND NECK.

Pyoktanin in Epithelioma of the Lips. By PROFESSOR ALEXANDER A. BOBROFF, (Moscow, Russia.) The author briefly relates two cases of epithelioma of the lower lip in peasant men who declined any surgical interference and hence were treated by a *zemsky* practitioner with parenchymatous injections of a 2 per cent. solution of blue pyoktanin. In both, the injections induced softening of the neoplasm, formation of small abscesses, disintegration and elimination of nodules, and consecutive shrinking of the tumor with cicatrization. In one of the patients (seen by the author about the termination of the pyoktanin course), the whole periphery of the ulcer proved to have cicatrized, and only two nodules could be detected at some distance from the side of the lesion. In the other man about ⅔ of the edge was found cicatrized, while along the remaining ⅓ of the periphery some cancerous nodules were still present. On the whole, the author believes that "there is something in it" which justifies further experimentation. [Prof. V. I. Küzmin, of Moscow tried methyl-violet in two inoperable cases, in one of which he had to deal with recurrent medullary cancer of the cervical lymphatic glands (developing in 3 months after the removal of the tongue on account of the disease), and in the other with recurrent carcinoma of the hyo-maxillary triangle and maxillary and parotid regions. In both of the cases there was observed partial softening, suppuration and disintegration, but on the whole the morbid process continued to steadily spread ever further. The author concluded that the method "has no serious value whatever." Prof. N. V. Sklifosovsky similarly mentions two cases of melanotic sarcoma in which the neoplasms continued to actively grow in spite of the pyoktanin injections. Dr. I. D. Sarytcheff also failed to check the progress of malignant disease in two cases, both of them being those of women with recurrent cancer.

In common with Prof. Sklifosovsky, Dr. Sarytcheff found the injections caused a vivid pain. In the *Provincial Medical Journal*, April, 1892, p. 177, Dr. F. F. Burghard, of London, contributed an instructive paper on the question, with 8 cases from his practice. *Cf.* also the following papers on the subject in the *Supplement of the British Medical Journal:* Le Dentu's and W. Meyer's, 1891, May 16, p. 158; Quenu's, June 27, p. 204; Von Schlen's, July 5, p. 30; Lodigiani's, and M. Belloths's, Aug. 22, p. 62; Zielgien's, Nov. 28, p. 174; Ceron's 1892, March 5, p. 40. An important contribution concerning antiseptic properties of pyoktanins, by Prof. Roswell Park, may he found in ANNALS OF SURGERY, July, 1891, p. 66. *Vide* also Title's paper, IBSID., August, p. 158.—*Reporter.*] *Transactions of the Moscow Chirurgical Society for 1891*, in the *Khirürgitscheskaia Letopis*, 1892, Vol. II. No. 1, p. 21.

VALERIUS IDELSON (Berne).

ABDOMEN.

Laparotomy Under Cocaine. By EMORY LAMPHEAR, M. D., PH. D. (Kansas City, Mo.). When admitted the patient was *in extremis*—cadaverous, weight less than 80 pounds and at the gate of death from starvation. Upon the evening of admission the abdomen was carefully scrubbed and shaved and a pad of moist bichloride gauze applied. On the following day a gastrostomy under local anæsthesia from cocaine was performed. One-half drachm of a 4 per cent. solution was injected in eight places into the subcutaneous areolar tissue along the proposed line of incision. As soon as the analgesic effect was established the usual operation was made, and without any pain or even sense of discomfort on the part of the patient. The only disagreeable symptom was a slight nausea when the left lobe of the liver was turned up to allow the stomach to be drawn up into the wound. The operation lasted twenty-two minutes.

How much longer the operation might have been prolonged without discomfort to the patient is a question of interest. But as a large number of the abdominal operations can be made within twenty minutes it is not so important as might at first be supposed. Besides

the fact that the primary depressant effect of a general anæsthetic was avoided by the use of cocaine, there were two other points of much importance in this case, viz.: the absence of vomiting that nearly always follows chloroform or ether, and especially the *absence of shock.* There was a total absence of anything like shock, and if this be found to be a general rule an immense gain may be made in sewing up stab or even gunshot wounds of the intestine (as well as in other numerous abdominal operations), by the use of local instead of general anæsthesia.—*New England Medical Monthly*, June, 1892.

GENITO-URINARY ORGANS.

Operation for Hypospadias by Scrotal Flap. By Prof. A. LANDERER, (of Leipzig). L. applies the plan recently set forth by Rosenberger for relief of epispadias to defects on the under surface of the penis. He makes a longitudinal, fresh surface on either side of the urethra, continuing this on the scrotum to a length corresponding with the hypospadias. The penis is now doubled on the scrotum and closely sewn to it along the denuded lines. When union is complete the scrotal flap is dissected up, thus forming the floor of the urethra. The skin edges are then united in the median line. L. advises that the second stage be delayed until the expiration of six to eight weeks. Silver sutures can be employed in bringing the scrotal edges together, grafting may be resorted to if necessary. We are left in doubt as to whether or not there will be a troublesome growth of hair in the urethra.

For illustrations see original.—*Deutsche Zeitschrift für Chirurgie*, Bd. 32, s. 591.

CHARLES A. POWERS (New York).

Litholapaxy in Children. By Dr. L. P. ALEXANDROW (of Moscow). A. has performed this operation 32 times on children of from 1 to 14 years with five deaths, three occurring as direct result of the procedure. He would employ it in all cases in which the urethra has a calibre of 14 Eng. and the stone a diameter not exceeding 2.0 to 2.5 cm. When these conditions are wanting he would resort to sectio alta.—*Deutsche Zeit. für Chir.*, Bd. 32, s. 525.

CHARLES A. POWERS (New York).

Traumatic Perineo-Rectal Fistula. By Dr. A. K. VALK (Smorgon, Russia). The writer records an interesting case of the kind, ending in a spontaneous recovery. A peasant-girl of 14, while coming down from a nut tree, struck against a dead bough, which penetrated deep into her perineum, causing agonizing pain. With great difficulty she managed to disentangle herself, the withdrawal of the foreign body being immediately followed by a profuse hemorrhage and, on the next day, by escape of gases and fæcal matter from the wound. On examination four days later, the author found a gaping vertical wound, three centimetres long, running from the sphincter along the raphe and higher up deviating to the right to involve the posterior third of the right major labium. A similarly vertical wound was present on the anterior wall of the rectum, it was large enough to admit a forefinger and proved to be communicating with the perineal laceration, the sphincter ani, vulva and hymen remained intact. The patient's parents refusing any operative aid, the treatment was of necessity limited to such measures as absolute rest, initial dose of a purgative, restricted diet (milk with bread), internal administration of opium, enemata every fourth day, and daily washing out and disinfecting the wound. On the twenty-sixth day of the treatment the rectal fistula perfectly healed. On the thirty-first the girl was discharged with a shallow soundly granulating surface at the site of the perineal wound, measuring about 0.5 centimeter in length.—*Meditzinskoïe Obozrenïe*, No. 2, 1892, p. 119.

VALERIUS IDELSON (Berne.)

ABSCESSES AND TUMORS.

Treatment of Spinal and other Tubercular Abscesses. By FREDERICK TREVES, F. R. C. S. (London). An incision is made into the abscess at the most convenient spot, and wherever possible at the most dependent point. It should be so placed as to command all parts of the abscess, and to allow of access to sound skin. The pus is allowed to escape and the abscess cavity is then washed out with a hot solution of corrosive sublimate of the strength of 1 in 5000. For this purpose a Leiters irrigator of the largest size, and suspended at a height of twelve feet is convenient. Many gallons of the solu-

tion are required. When the fluid returns clear the fingers are introduced into the cavity, and the caseous semi-solid matter which exists in such quantity in these abscesses, and which is not wholly removed by flushing can be dislodged. By means of the fingers also septa in the cavity may be broken down, diverticula may be opened up, and by the aid of the finger-nails a considerable quantity of the smooth, slimy lining membrane of the abscess may be removed. Repeatedly the cavity is flushed out with the warm solution. The lining wall of the abscess is now carefully and thoroughly scraped with a Volkmann's spoon until the whole surface has been laid bare. Every once in a while all the debris is flushed away. After the scraping and flushing have removed all signs of the lining membrane, comes the most important part of the operation—the rubbing of the abscess wall with sponges and the thoroughly drying of the cavity. By means of sponges on holders the whole of the abscess wall is thoroughly rubbed, and it is surprising what a quantity of inflammatory material in the form of the slimy lining membrane, and even cheesy pus, comes away upon these sponges. The sponging process is tedious but it leaves the cavity practically dry. The abscess cavity is now a raw space almost comparable to that which would be left after the removal of a large and adherent tumor. The oozing of blood, which is at first considerable, soon ceases, and the last sponge should be withdrawn practically unsoiled. The incision is then completely closed with silk-worm gut sutures. No antiseptic is introduced into the abscess cavity and, of course, no drainage is employed. As far as possible the abscess in obliterated by properly placed pads. An abscess which has become thoroughly septic may be treated in the same manner.

In spinal abscesses certain difficulties arise, the chief of which depend upon obstacles in the way of the complete evacuation of the abscess and the complete removal of its lining membrane. The depth of the cavity, its great length, and its position within the abdomen (assuming it to have followed the psoas muscle) place difficulties in the way. In case of recurrence of the abscess after it has been thoroughly dealt with by this method, the cavity should be injected with a solution of iodoform if it is so placed that aspiration may be safely performed. —*London Lancet*, May 21, 1892.

SAMUEL LLOYD (New York).

Treatment of Inoperable Malignant New Growths by Pyoktanin. By PROF. PETR I. DIAKONOFF (Moscow, Russia). The author details three interesting cases, one of which is that of a peasant man of 59, with recurrent cancer of the right zygomatic bone and lower edge of the adjacent orbit. The new growth measured 5 x 5 centimetres, and was immovable and dense, its centre being occupied by an easily bleeding ulcer, rising nearly one centimetre above the surface and discharging a muco-purulent matter. The nose was œdematous, while the soft tissues below the tumor were infiltrated sufficiently densely to interfere with opening the mouth. During the period of June 8th to Aug. 28th, there were given 18 injections of an aqueous solution of methyl-violet. The strength being gradually increased from 1 to 1000, to 1 to 300. The quantity of the fluid at a sitting varied from 1 to 4 grammes, the solution, being injected both into the ulcer's base and along its periphery. The discharge at first increased, but later on, after a few injections, considerably lessened. After a second sitting the tumor began to gradually decrease in size, after a third, opening the mouth became freer, and nasal œdema disappeared. The patient (who was compelled to interrupt the treatment on account of some urgent family affairs) left the hospital on the 82d day since the first injection when the following changes could be registered. The ulcer had become quite clean and ceased to bleed and protrude, while there set in a sound cicatrization along its whole periphery; the infiltration of the cheek and lips disappeared, opening the mouth became quite free, and the patient's general state improved. A second patient was a badly nourished and sickly woman of 41, with a very hard cancer of the right breast, involving the whole organ. The skin was universally adherent and traversed with frequently and profusely bleeding ulcers. There were present, further, numerous nodes and nodules in the left mamma, as well as over the sternum and ribs, and a considerable infiltration of the axillary and supraclavicular glands on both sides. The patient was suffering greatly from incessent pain (which did not yield to morphine or any other narcotics), obstinate sleeplessness, anorexia and great prostration. At first a 1 in 500, later on a 1 in 300, solution of pyoktanin was employed, the dose injected at a *séance* varying from 1 to 6 grammes, and the injections being repeated

twice a week. Only the mammary tumors were treated in this way (all the remaining were left alone). In all 52 injections were given in the course of six months (up to the date of the communication.) After two *séances* hemorrhage ceased and never recurred, after a 3d the sternal tumor markedly diminished, while shortly afterwards pain totally subsided, and the cutaneous nodules, mammary tumors and glandular infiltration commenced to steadily decrease. The ulcers partly healed partly became covered with crusts. The patient's sleep, appetite and general strength markedly improved. Some relapses occurred from time to time, but the right mammary tumor still continued to decrease, though rather slowly, up to the publication of the paper. The third patient, a woman, aged 58, had a recurrent fibrochondrosarcoma of the right parotid, involving the masseter, mastoid process, and suprahyoid region, and accompanied by œdema of the surrounding soft parts, auricle, facial paralysis, absolute deafness on the affected side, salivation, sensation of foreign body in the pharynx, etc. Exactly the same treatment was adopted as in the preceding case, the total number of injections, made during the period of Aug. 15th to Nov. 6th, amounting to 23. The parotid tumor markedly decreased. œdema of the face and ear disappeared, salivation and the sensation about the pharynx diminished, the hearing power of the right ear markedly improved. The patient's general condition, however, continued to grow worse, and she ultimately died from a metastasis into the liver. Analyzing his cases and reviewing the international literature on the subject, Dr. Diakonoff comes to the conclusion that 1. blue pyoktanin actually possesses a power of destroying malignant new growths, though its action is not energetic. As Prof. Mosetig Moorhof has pointed out, the drug's *modus agendi* consists in inducing fatty degeneration of the neoplasms, the products being partly absorbed, partly forming pus, etc. 3. Contrary to the statements by Quénu and A. Williams (of St. Louis), methyl-violet is very diffusible. 4. The injections do not give rise to any pain beyond that from puncture. 5. The remedy is harmless. 6. The method is indicated solely in inoperable cases of malignant new growths.—*Khirürgitcheskäia Letopis*, 1892 Vol. II, No. 1, p. 3.

VALERIUS IDELSON (Berne).

Suppuration. By G. H. ROGER. Suppuration can be produced either by one of the numerous microbes, whose principal but exclusive quality is pyogenic, or by other agents more virulent, but still accidentally acquiring this quality, or by simple saprophytes. Apparently, the results of recent experimentation go to prove that it may be produced by most of the well known microbes.

Graevitz and Bary have done the best work in determining whether pus can or cannot be produced by the introduction of aseptic substances into the body without the presence of bacteria. They have proved that in rabbits suppuration without microbes cannot be induced, while in dogs a solution of nitrate of silver or concentrated ammonia will cause abscess. But the most marked result was obtained by the use of terebinthine. This substance and mercury are strongly pyogenic for dogs, while for some other animals (rabbits, etc.) they are simply phylogenic.

In his normal condition man is not a very favorable medium for pyogenic microbes; for their development the resistance of the tissues must be lessened either in consequence of a traumatism or local alteration, or the general health must be impaired in some way. It is fortunate this is so, since pyogenic microbes are everywhere about us. They are constantly found in the skin, in the mouth and intestines, and while harmless generally, expose us to constant danger. In the course of infectious diseases suppurations often occur and always in localities previously attacked by these microbes. This explains the secondary suppurations in different skin diseases, and in consumption the destruction of the lung allows the pyogenic microbes to add their action to that of Koch's baccillus, so that at the same time the patient may be pyohemical as well as phthisical. In wounds of the skin and sores it is almost impossible to prevent their appearance. In the secretions of wounds where there has been perfect union and no suppuration Bloch has often found pyogenic agents.

All these facts prove that it is a great mistake to believe that a pathogenic microbe introduced into an organism causes disease and always the same disease. That such a result should follow there must be an organic consent and the clinical character will depend less on the invader than on the subject invaded.

Gangrene has the same microbic agents as suppuration, the clinical difference is due to the patient. Suppuration is therefore a morbid process which develops oftenest when the organism has no strength to resist the pyogenic agents which everywhere attack it. The causes favoring it are of two kinds, a local alteration or general modification of the organisms. It is produced in all cases by a reaction of the organism, diapedesis and karykinosis, against certain irritating substances whether they be originally microbic or not. The causes are therefore multiple, the mechanism always the same.

But if the possibility of an aseptic suppuration has been demonstrated by numerons experiences, the result has only a theoretical interest. It explains the mechanism of suppuration, it has a primordial importance from a pathological and physiological point of view: next from a surgical standpoint, it can be stated that there is no pus without microbes, but, there is no microbe of pus. Most bacteria can under certain circumstances acquire pyogenic properties. *Revue de Chirurgie*, Dec., 1890.

SAMUEL LLOYD, (New York.)

BONES.—JOINTS.—ORTHOPÆDIC.

"Researches on the Spinal Curvatures of Children while Sitting. A Study of the Mechanics of the Sitting Posture." By WM. SCHULTHESS.[1] Dr. Schulthess based his paper on examinations of fifty children made by means of his measuring apparatus. Each child was measured standing, sitting at ease, and sitting erect. Two curves were taken in each position, one to show the antero-posterior, the other the lateral deviation of the vertebral spines. The author describes and classifies these curves and notes the effect on each of a change from one attitude to the other.

He found that almost all children exhibited while sitting at ease a marked kyphosis which increased in proportion to the time they remained seated, the most prominent point being in the great majority of cases the first lumbar spine. If an erect sitting position was assumed these curves showed a decided flattening out and

[1] Zürich Zeitsch für Orthop. Chir. 1 Bd. 1 Heft. 1891.

generally two projections instead of the one long kyphosis, a slight but evident lordosis appearing at the dorso-lumbar junction. In most of these cases there was also a slight inclination forward of the whole spine. As compared with a standing position the lumbar lordosis was always less and the dorsal spine more flat.

The inclination of the pelvis was always changed in these cases as well as that of the spine itself, and the author proved that not even by the greatest muscular effort could this inclination be made as great in the sitting position as it was habitually in standing at ease. The difference amounted to from five to ten degrees.

While sitting at ease the lateral deviations were in one-half the cases more marked than they were when the child stood, and a still greater number showed this increased deformity in an erect sitting position.

The author recommends a separate consideration of the young and adult types on account of the occupation curvatures developed in the latter. He notes considerable differences also between the curvatures seen in boys and girls.

The very great pliability of the child's spinal column made it possible to get the same curvature in sitting from the most diverse standing positions.

The chief factors in producing these changes in the spinal curves were found to be the change in the position of the centre of gravity, and the loss while sitting of the compensatory motions at the hip and ankle so useful in maintaining equilibrium. The latter fact made it clear why slight asymetry of single vertebra had a much greater mechanical effect on the column in sitting than in standing.

Dr. Schulthess advised in view of these studies that children should be allowed to sit less. The kyphotic position generally assumed interfered also with respiration and circulation. While an erect sitting posture removes these objections it causes an abnormal antero-posterior curvature and increases any lateral deviation which may exist.

T. HALSTED MYERS (New York).